

MEMO

To: Loren Botorff

From: Bill Brownlie

Subject: Review of CalFed Technical Reports for Use in EIR/EIS

Date: August 21, 1997

We have reviewed all 25 sets of the CalFed technical reports for applicability and use in the Programmatic EIR/EIS on the project. Some general comments are provided below. An inventory of the reports, followed by specific comments on individual technical reports are attached (see discussion item 7 on the last page of this memo for more information on these comments.) For your convenience, I have enclosed several extra copies of this memo. Stein and Ray McDowell have both expressed interest in seeing this information.

1. **EIR/EIS Document Preparation Strategies.** There appear to be two options: 1) Prepare a summary level Programmatic EIR/EIS document that is supported by 26 sets of published technical reports; or 2) Prepare a more comprehensive document that is self contained but much longer. Either approach would be legally defensible, but the latter would probably be more efficient, since the technical reports would not have to be polished and published as stand alone documents. The second option would probably result in a 3-volume document, with the volumes being an executive summary, the main document, and an appendix volume containing supporting data and other technical information.

If option 2 is selected, the draft technical reports provide a significant amount of material that could be used in preparing the EIR/EIS. The technical reports are generally structured to serve as EIR/EIS document sections. However, sections of the Programmatic EIR/EIS outline dated 1/29/97 need to be updated to be consistent with the order of presentation of information in the technical reports, which provide a comparison of alternatives by region.

In general, we believe it would be easier to pull the full reports into the EIR/EIS document than to try to develop new executive summaries that could be used as EIR/EIS sections. The executive summaries of the individual technical reports could be used to support preparation of the overall Executive Summary of the EIR/EIS. Once a rough-cut document is assembled, it would be necessary to pare down certain sections to the appropriate level of detail. Other sections would need to be expanded. Certain data tables or technical details could be placed in the appendix volume.

2. **Short Term Construction-Related Impacts.** The present documents contain almost no analysis of construction-related impacts. In the section that defines the meaning of significance, the CEQ Regulations for implementing NEPA clearly state (Section 1508.27 (a)) that "Both short- and long-term effects are relevant." Similar guidance is provided in the CEQA Guidelines (Section 15126). We could find no exemption from this requirement for programmatic documents. Therefore, we believe discussions of short-term construction related impacts should be included.
3. **Alternatives.** The CEQA and NEPA Guidelines both allow us to pare down the number of alternatives. In addition, it is not necessary to identify the preferred alternative at the draft stage. The CEQA Guidelines allow for the "Rule of Reason" (Section 15126 (d) (5)) which

“requires the EIR to set forth only those alternatives necessary to permit a reasoned choice.” Alternatives can be eliminated for a number of reasons including economic viability.

The document could be structured to provide detailed discussions of 5 or 6 alternatives that cover the range of possible actions expected for the program. These discussions could then be supplemented by a document section titled “Variations to Alternatives Analyzed in Detail.” This section would address differences in impacts associated with alternatives that are not discussed in detail. The Alternatives could be renumbered to group them together by common elements such as the isolated facility, with the variation of using a pipeline in place of the open channel. Or, the variations could be discussed as major system mitigation measures. For example, the pipeline-isolated facility could be presented as a way of mitigating effects of a channel, and the consequences of doing so could be addressed in the Variations section.

4. **EIR/EIS Document Outline.** The current outline provides for a comprehensive document that covers a broad spectrum of alternatives. The current structure would lead to inclusion of much of the technical report contents directly into the EIR/EIS. The combined technical reports currently contain 725 pages of affected environment descriptions and 1215 pages of impact analysis, for a combined total of 1928 pages. Without combining resource sections, or changing the outline or approach, or reducing the number of alternatives, we can probably expect a 3 volume EIR/EIS that is between 1,500 and 2,000 pages. Some specific comments on the outline are as follows:

- Sections addressing construction impacts need to be added.
- A major difference between the reports and the outline is that the reports are not structured around a preferred alternative and the EIR/EIS outline is. The document should probably address the alternatives in numerical order, similar to the technical reports. If a preferred alternative is identified before the draft document is published, then it could be identified in the main introduction and it would not be necessary to reorder the discussions in the remainder of the document.
- Sections 4.1 through 4.5 should probably be combined into one (Water Resources) or two (Surface Water and Groundwater) sections.
- There are three technical reports addressing flood control and management, but only one section in the EIR/EIS, 4.7 Flood Control System. This section should probably be combined with the other water sections 4.1 through 4.5, as discussed above and the technical reports should be combined.
- There are no technical reports to support the seismicity analysis in Section 4.6
- Information to support Section 5.3 Special Status Species is provided in the Vegetation and Wildlife technical report.
- As mentioned previously, the outline for a typical impacts section shown for section 4.1 needs to be updated to be consistent with the order of presentation of information in the technical reports, which provide a comparison of alternatives by region.
- A full outline should be developed showing all sections through at least the fourth level. The current outline shows detail for the first resource area only. A full outline is needed because there will be differences in the information provided from one resource area to

another.

5. **General Organization/Consistency of Draft Technical Reports.** Although many of the technical reports followed the prescribed format, some did not. In addition, the 26 sets of technical reports contain considerable overlapping information and overlapping topics that may prove problematic to incorporate into a logically organized EIR/EIS. Consistent formats would facilitate incorporation of the data in the EIR/EIS. We suggest the preparation of a table to track and evaluate whether or not each technical report includes and adequately addresses each subsection required in the EIR/EIS impacts sections. The table should include each of the EIR/EIS outline topics (e.g. significance considerations, impacts, and mitigation).

The technical reports should have sections on:

- Summary of Potentially Significant Impacts
- Mitigation Strategies
- Summary of Residual Impacts
- Potentially Significant Unavoidable Impacts

Although these sections are included in the Executive Summaries, they should be added to the main bodies of the technical reports in the discussions of the impacts of each alternative, following the Comparison to Existing Conditions sections.

6. **Significance of Impacts.** Several public agencies that prepare NEPA documents, including the Air Force and the Department of Energy, have substantially reduced the discussion of the significance of impacts, and have eliminated significance criteria. In reviewing case law on litigation of NEPA documents, we have found that the greatest issue on significance from a NEPA perspective is the threshold for preparation of an EIS. NEPA requires the preparation of an EIS for "major Federal actions significantly affecting the quality of the human environment." Therefore, by preparing an EIS, the agency is admitting that there will be significant effects on the human environment. The EIS can then focus on describing the magnitude of those effects but not dwell on their significance.

CEQA requirements are more restrictive in that CEQA requires mitigation of significant effects. Therefore, significance of impacts cannot be ignored. However, it would still be possible to describe the magnitude of effects and the associated mitigation measures that would be applied without dwelling on significance in the main impact analysis sections. CEQA Guidelines (Section 15002 (g)) describe a significant effect on the environment as "a substantial adverse change in the physical conditions which exist in the area affected by the proposed project." Specific examples are provided in Appendix G of the Guidelines. CEQA definitions differ somewhat from those in the NEPA Guidelines, which define significance in terms of context and intensity.

It would be possible to change the sections titled "Significance Criteria" to "Significance Considerations." These sections would discuss the factors that contribute to effects being considered significant using the examples in Appendix G as guidance. The discussions of impacts could then focus on the magnitude of adverse changes associated with each of these factors. The discussions should be supported by some simple graphical or tabular systems for ranking or comparing alternatives be adopted as a standard for the document. In our hydrodynamics/hydraulics report both graphical and tabular presentations were used. The

graphic chart presents the magnitude of a change in terms of negligible, low, moderate, or high, using varying sizes of circles. The definitions of each rating category (high, low, etc.) would need to be provided for each resource impact category, examples of which can be found in the hydrodynamics/hydraulics report. The discussions of the impacts would be followed by information in the impact summary and mitigation sections described in item 5 of this memo and shown in the four bullets within that description.

Ultimately, the significance of impacts would need to be discussed in the written "Findings," prepared pursuant to Section 15091 of the CEQA Guidelines. The findings could also be used to discuss the next tier of the NEPA/CEQA process, which would be site specific analyses which would provide more detailed assessments of impacts.

7. **Reviews of Technical Reports.** Specific comments and recommendations on each technical report are attached. We recognize that some of these comments may address issues that will be corrected during the next round of draft document submittals. However, some of the issues may not be addressed. We would be pleased to have our reviewers look at the next round of documents and update the findings and recommendations. At that point we could help CalFed develop centralized guidance to each team to make the final reports more consistent or convert them to specific document sections. If this approach were used, it would be useful to select and provide a model report or sections from one or more reports illustrating appropriate level of detail and formats. Alternatively, we could support the compilation of the reports into a single rough draft EIR/EIS document and return the complete document to the teams for review and comment.

Inventory of Draft Technical Appendices Reports for CalFED PEIS

No.	Report Topic	Received Report		Team/Author/Co.	No Pages Affect./Imp	Total No Pages
		Affect	Imp.			
1	Agricultural Economics	X	X	5/Steve Hatchett, CH2MHill; Bing Zhang, CH2MHill	39/23	62
2	Air Quality	X	X	6/Jeff Zimmerman, WC	23/35	58
3	Cultural Resources		X	6/ Laura Harnish, CH2MHill	0/13	13
4	Fisheries and Aquatic Resources	X	X	1/Warren Shaul, JSA; Erwin Van Nieuwenhuyse, JSA; Bud Abbot, EA; Alice Low, CH2MHill	71/72	143
5	Fish, Wildlife, and Recreation Economics	X	X	5/Thomas Weggie, JSA	28/31	59
6	Flood Control Economics	X	X	5/Jerry Horner	25/9	34
7	Flood Control System Infrastructure	X	X	2/Mike Stuhm/ Woodward-Clyde	23/18	41
8	Flood Management System	X	X	3/Don Wagenet, Tt; Ulrich Lusher, WC; Said Salah-Mars, WC	16/30	46
9	Geomorphology and Soils	X	X	6/Peter Standish-Lee, MW; Mat Kondolf	51/60	111
10	Groundwater	X	X	2/Roger Putty/ Montgomery Eng.	53/33	86
11	Hydrodynamics and Riverine Hydraulics	X	X	2/Bill Brownlie/ Tt; Tom Whitehead, Tt; Christine Lew, Tt; Gary Palhegyi, Tt	46/120	166
12	Land Use	X	X	5/Tim Cohen, WC	25/88	113
13	Municipal and Industrial Water Supply Economics	X	X	5/Roger Mann, CH2MHill	31/31	62
14	Noise	X	X	6/ Jeff Zimmerman, WC	5/24	29
15	Power Production and Energy		X	5/Eric Lueze, BE	0/74	74
16	Public Health and Environmental Hazards	X	X	6/ Laura Harnish, CH2MHill	28/22	50
17	Recreation	X	X	6/ Laura Harnish, CH2MHill	36/16	52
18	Regional Economics		X	5/Fred Hickman, Tt	0/52	52
19	Surface Water Hydrology	X		2/ Paul Wisherup/ Montgomery Eng.	18/0	18
20	Transportation	X	X	6/ Jeff Zimmerman, WC	7/33	40
21	Utilities And Public Services	X	X	6/Laura Harnish, CH2MHill	12/20	32
22	Vegetation And Wildlife	X	X	1/Steve Kellogg, WC; George Redpath, Tt	66/146	212
23	Visual Resources	X	X	6/ Jeff Zimmerman, WC	10/15	25
24	Water Quality	X	X	4/Carol Howe, MW; Peter Mangarella, WC; Peter Standish-Lee, WC	100/102	202
25	Water Supply And Water Management	X	X	2/ Russ Brown, Jones and Stokes	148	148

REVIEW COMMENTS ON DRAFT TECHNICAL REPORTS

1. AGRICULTURAL ECONOMICS

Affected Environment

1. This section has no summary.
2. The report contains adequate information organized by region.
3. There is some redundancy between this and other reports with respect to agricultural land uses, economic, and historical development of the regions.

Environmental Consequences

1. This section has a fairly detailed executive summary. It does not address significance criteria, actual significance of the impacts, mitigation measures, or residual effects after mitigation.
2. The technical report does not address significance or mitigation. The significance criteria section is blank. It also fails to provide economic analyses/conclusions for many of the regions. For example, it discusses acreages or water supplies gained or lost, but does not convert those impacts into dollar amounts.
3. The report is incomplete with respect to the No-Action Alternative.
4. Summary tables of impacts by region are incomplete. There is no comparison or ranking of alternatives.

2. AIR QUALITY

Affected Environment

1. No summary section included.
2. Introduction section adequately summarizes affected air basins. If introduction is used as summary, then attainment/non-attainment status of each air basin, state and federal standards, and a regulatory summary should be included.
3. Technical report provides good level of technical information. The following items should be included/clarified:
 - Include degree of nonattainment (moderate, severe, serious, etc) and maintenance areas (Bay Area maintenance for ozone) (40 CFR Part 81) in Table 2.
 - Applicable conformity de minimis levels could be included in discussion of general conformity rule as reference for future actions.
 - Identify relevant APCDs and AQMDs.
 - Climatology should include average temperatures, wind speeds, and precipitation.
 - CARB Annual Summaries provide additional information on air quality monitoring results throughout California.
4. Report needs technical edit

Environmental Consequences

1. With the addition of a summary of assessment methods and significance criteria, summary provides adequate information on air quality impacts for a programmatic level document.
2. Impact analysis should discuss impacts and mitigations for blasting.
3. A brief reminder of attainment/nonattainment status in introductory paragraph of each regional alternative (5.2 Delta, 5.3 Bay Area, etc.) would be helpful in assessing impacts to that area. Indication of potential work to be performed near urban/developed areas also would add perspective to the general discussion of impacts.
4. Alternatives are compared using a Bay Delta Program Alternatives/Air Quality Impacts matrix (Figure 5-1). The matrix is a good visual representation of which alternatives are likely to have significant impacts under the different planned activities (ecosystem restoration, water quality program, conveyance facilities, etc).
5. Report needs technical edit

3. CULTURAL RESOURCES

Affected Environment

Document was not provided for review.

Environmental Consequences

1. The following are not included, or are incomplete:
 - Headings are not numbered
 - Summary of Potentially Significant Impacts is not included
 - Assessment methods are not broken down by region
 - No Action is not explicitly compared to Existing Conditions, (but no impacts were identified from the No Action Alternative).
2. Although generally described in the text the report might benefit from illustrations that show known and potential cultural sites relative to defined project components.
3. A higher degree of specificity may not be possible given the lack of detailed in the description of alternatives. A discussion of how this limits the analysis should be provided.
4. If possible, the analysis should provide more detail alternative components that are relatively well-defined geographically. Such an analysis would draw upon data that needs to be presented in the Affected Environment report.
5. Table 4 is difficult to read. It should be organized to correspond to supporting text.
6. The discussion of mitigation strategies identifies the regulatory process but adequately specific to the impacts identified in Table 4.
7. It is not clear why ground water storage-related impacts deserve a separate column in Table 4.

4. FISHERIES AND AQUATIC RESOURCES

Affected Environment

1. Very little of the information in the Aquatic Ecosystem Conditions Section on the extent of existing and historic resources are documented with references. It is not clear if these produced for this report or obtained from other sources?
2. Paragraph headings under Factors Affecting Distribution and Abundance for each species, such as Life History, Flow, Fishing, Spawning Gravels, etc. should be changed and reorganized, where possible, to fit into the Actions and Effects Categories listed in Table 3.
3. For the striped bass (page 15) include a statement that it is an introduced species, when it was introduced, and its importance as a sport fish.
4. Include information on page 18 on the effects that the striped bass have on native species from competition and predation.
5. On page 19 a mention is made of the importance of zooplankton to fry in the lower Delta. Reduced production of zooplankton should be described on page 23 as a factor affecting Abundance and Distribution
6. Comment 5 also applies to sturgeon on page 26.
7. A description of the effects of competition on native species should be included on page 27 for American Shad, an introduced species.
8. Page 32—Comment 5 also applies to Delta Smelt.
9. Page 44—Explain how loss of wetlands and shallow water affect the mysid shrimp (page 44). The loss of nutrients impact phytoplankton and ultimately the mysid.

Environmental Consequences

1. Include a statement in the summary addressing how the impacts will be analyzed once an alternative is selected and described in detail. In other words describe how the environmental analysis will proceed from programmatic to project specific.
2. A summary of the unavoidable impacts and those that can be mitigated should be included in the Summary chapter.
3. Identify mitigation measures that could be implemented to reduce the impacts. These should be summarized as well.
4. An analysis of cumulative impacts is needed.
5. Table 3 should list a summary for each region.
6. The summaries for each region should include an impact summary table for each alternative by region.
7. Table 3 should list the endangered species that would be impacted. Even if the overall impact is positive, a loss of individuals of the species is still considered significant and would require Endangered Species Act consultation. In this case species specific analysis would be appropriate.
8. Paragraphs should be numbered.

5. FISH, WILDLIFE, AND RECREATION ECONOMICS

Environmental Consequences

1. Report does not have an executive summary.
2. The report analysis is very qualitative but, with moderate editing and reorganization could serve as the basis for EIR impacts section.
3. Report includes comparative tables of impacts of each element of the proposed program on various economic resources by alternative. These should be used to rank the alternatives.

6. FLOOD CONTROL ECONOMICS

Affected Environment

No comments.

Environmental Consequences

1. Report needs an executive summary.
2. The impacts report does not provide adequate information for an EIR/EIS impacts section.
3. Most economic analyses are deferred.
4. No discussion of mitigation measures is provided.

7. FLOOD CONTROL SYSTEM INFRASTRUCTURE

Affected Environment

No comments.

Environmental Consequences

1. The executive summary of this report is one paragraph, with one sentence devoted to each major impact topic and no distinction amongst the impacts. It is not adequately detailed for an EIR/EIS.
2. The summary is supported by information in the report.
3. The impacts analysis of the report is well organized with respect to impacts and mitigations, and, with some editing and possible reformatting would be suitable for use in the EIR/EIS impacts section.
4. There is an internal inconsistency in that Alternative 1 is addressed according to the six main project components (Ecosystem Management, Water Quality Program, Water Use Efficiency Program etc.), but the subsequent alternatives are assessed according to Common Program Elements, Storage Program, and Conveyance Program. Setting information has been included in the impact section under the odd heading of "Resource Conditions."
5. The summary section does not provide enough information to permit ranking of alternatives.
6. The qualitative nature of the evaluation of alternatives in the body of the report also makes comparison of impacts amongst alternatives difficult, although most impacts for all of the alternatives appear to be generically mitigable.

8. FLOOD MANAGEMENT SYSTEM

Affected Environment

No comments.

Environmental Consequences

1. The Executive Summary includes only one sentence on each major impact issue, and only three sentences on possible mitigation strategies. No distinctions are made between the various alternatives. This is not adequate for an EIR/EIS impacts section.
2. There is no discussion of residual impacts.

9. GEOMORPHOLOGY AND SOILS

Affected Environment.

1. Report needs a summary.
2. Level of detail appears to be adequate.
3. Body of report supports the information given in the introduction.
4. Well written and informative.

Environmental Consequences

1. The information in the Executive Summary is not adequate.
2. For the subjects covered, the summary of significant impacts is generally adequate.
3. The summary of mitigation strategies needs to be more detailed; it is too general and does not adequately summarize mitigation strategies presented in Section 5.
4. Summary of potential significant unavoidable impacts is adequate.
5. None of the summaries distinguish effects by region. This is acceptable only if the impacts and consequences do not vary from region to region. The summaries should be expanded to present effects where they differ by region.
6. This ES summarizes potential significant impacts by alternatives, mitigation strategies, and potential significance of unavoidable impacts. It does not summarize the No Action Alternative, assessment methods, or significance criteria. The EIS should include these latter three items.
7. Each summary section should be expanded, where appropriate, to present effects on a region by region basis.
8. The alternatives generally are not dealt with in a manner that is conducive to ranking them by relative levels of impact. As is, ranking would be possible only based on the number of criteria affected, not the magnitude of the impacts. Magnitude or intensity of impact should also be discussed.
9. The document is missing key information including:
 - An introductory note indicates the writers were still lacking input from the subconsultant regarding fluvial geomorphological analysis, as well as

the results of riverine hydraulics and estuarine hydrodynamics sections at the time of submittal of the manuscript.

- No text was provided for the No Action Alternative. As a result, none of the alternatives are compared in the text to the No Action Alternative.

10. GROUNDWATER

Environmental Consequences

1. The summary is supported by a sufficient level-of-detail and documentation.
2. The alternatives are compared in the Summary section. Impacts are summarized on a "positive" or "negative" basis.
3. Significance Criteria are specified on a narrative basis and used in the analysis.
4. Mitigation Strategy is provided for each identified potential impact.

11. BAY DELTA HYDRODYNAMICS AND RIVERINE HYDRAULICS

Affected Environment

No Comments

Environmental Consequences

1. The alternatives are compared in the Summary section with a measure of the magnitude of the impacts identified.
2. Significance Criteria are specified and used in analysis. Criteria definitions vary.
3. Mitigation Strategy needs to be expanded and needs to address the impacts identified.

12. LAND USE

Affected Environment

1. No Summary was included in this report
2. The introduction should mention the baseline year and the types of land uses described (agriculture, open space, and developed uses).
3. The information provided for the individual counties within each region in Section 4 should be aggregated into a summary table for each region. The Summary should include these tables and general descriptions of the agriculture, open space, and developed areas within each region.
4. A graphic illustrating the boundaries of each county and the Delta Primary and Secondary Zones in relation to the Delta would be useful in the Summary.

Environmental Consequences

1. The Summary is too brief and general in its discussion of impacts. It does not contain a description of impacts from the No Action Alternative.
2. The mitigation strategies do not mitigate the significant impacts that were identified. Instead they mitigate an impact (i.e., inconsistency with agricultural

and land use objectives of local and regional plans) that is not identified or discussed in the text.

3. The Summary should be expanded to include all the headings listed in the table of contents and to provide impact discussions under each of those headings. For each alternative, this section should describe the significant and less than significant impacts and the regions where the impacts occur.
4. Under the impact sub-headings ("Direct and Construction-Related Impacts" and "Indirect and Operational Impacts"), the third level headings should reflect the significance criteria presented in Section 4. For example, "Impacts to Prime and Unique Farmland."
5. The discussion of impacts should incorporate the EIR/EIS convention of identifying a significant impact and following it with the suggested mitigation measures.
6. Section 5 includes repetitive text that makes the section too long. The beginning of the section should focus on the impacts associated with components common to all alternatives. Then, under Alternatives 1, 2, and 3, an introductory section could describe impacts for the additional components included within those alternatives. The impact discussion could then list each sub-alternative's components and provide any alternative-specific differentiation from the impacts presented earlier. This would eliminate repetitive text and allow the reader to better evaluate the impacts for each sub-alternative.
7. Report should include table and text. Less than significant impacts should be included. A ranking system for impacts should be employed. This table could also be organized by project component.

13. MUNICIPAL AND INDUSTRIAL WATER SUPPLY ECONOMICS

Affected Environment

No comments.

Environmental Consequences

1. The executive summary does not contain adequate information with which to distinguish amongst the alternatives.
2. Subheadings should be used to improve readability.

14. NOISE

Affected Environment

1. No summary section is included.
2. Regulatory and community noise guideline information and a general discussion of noise terminology are needed in the introductions.
3. Technical report is too brief and references noise technical appendix for technical description of noise. A brief summary of noise terminology from the technical appendix should be included in this section.

Environmental Consequences

1. The summary should include more detail on typical noise levels produced from different activities (e.g., a paragraph each summarizing construction, pipeline construction, blast noise, off-site effects, etc)
2. Impacts report is very thorough and provides a clear understanding of what noise levels would be expected at certain distances even though project-specific details have not yet been developed.
3. No comparison of alternatives has been included. To quantify which impact would have the greatest (or least) noise impacts, it would be necessary to know what noise-producing activities would be taking place nearest to noise sensitive receptors under each alternative.
4. C-weighted scale (because of blast noise) and CNEL definitions should be included.
5. Distance attenuation (how noise is influenced by distance/topography/barriers) should be discussed.
6. More detail of what noise levels are acceptable for different land use categories (e.g., based on CA noise and land use compatibility standards table).

15. POWER PRODUCTION AND ENERGY

Affected Environment

Document was did not provided for review.

Environmental Consequences

1. This report has only a very basic outline of tables to be included in/as an executive summary, to be filled in later. However, the tables may be suitable in detail for use as the basis for the EIR/EIS impact section.
2. The report is missing many subsections, but, based on the outline and the sections that have been completed, looks like it will be quite comprehensive when completed. It contains adequate information from which to cull EIR/EIS impacts information.
3. The report includes substantial information that may overlap or contribute to information included in the economics report(s). Comparison of Alternatives
4. The summary section does not provide enough information to permit ranking of alternatives.

16. PUBLIC HEALTH AND ENVIRONMENTAL HAZARDS

Affected Environment:

1. Document focuses almost entirely on public health issues related to mosquitos. General discussion of hazardous waste/materials issues should be included.

Environmental Consequences

1. Discussions of impacts are too general, poxxible due to lack of detail in alternative descriptions.

2. Mitigation measures are not describes outside the Intro/Summary. All other sections refer back to items listed in summary.
3. Potential significant impacts are the same for all alternatives.
4. Supporting documentation is weak. This may be due to the lack of detailed alternatives for evaluation.
5. Impact discussion lacks sufficient detail for comparison or ranking of effects.

17. RECREATION

Affected Environment

1. No summary.
2. The individual discussions of issues for each region are generally focused, without a lot of extraneous discussion. Needs to be proofread.
3. Appropriate level of detail for a technical appendix. Detailed tables at the end of the report are useful.
4. Overall, contains enough relevant material for a programmatic level EIR/EIS.
5. Several data gaps are identified in the Setting section regarding the history of salmon sport fishing and historical information on recreation at some west slope Sierra Nevada rivers.

Environmental Consequences

1. The Impact Summary lacks sufficient detail.
2. No text in "Summary of Regional Effects by Alternative" sections.
3. Significance criteria are adequate for programmatic analysis.
4. Headings are confusing because the format is the same for all heading levels – only the three-place numbering system differentiates the levels..
5. Needs to be proofed.
6. Analysis is generally adequate for programmatic level, but is overly brief for many issues. Impacts should be more specific. For example the statement "impacts could result from reservoir drawdown; the extent and type of impacts would depend on the extent of drawdown," should be expanded upon.
7. Mitigations are not identified. Only two brief statements regarding mitigation strategies are provided at the beginning of the section.

18. REGIONAL ECONOMICS

Affected Environment

No comments.

Environmental Consequences

1. The executive summary of this report is incomplete, but includes an outline that indicates that it will briefly describe impacts by alternative.
2. Assessment methods, significance criteria, mitigation strategies, and residual impacts are not called out in the summary.
3. Overall the impacts report is well organized and includes most of the information required for the EIR/EIS.

4. The tables and text provided in the report lend themselves to comparison and ranking of alternatives.

19. SURFACE WATER HYDROLOGY

Affected Environment

Only Affected Environment report was received for review. No comments on Affected Environment report.

20. TRANSPORTATION

Affected Environment

1. The report does not include a summary. The main body of the technical report (Section 4.0) is generally at the summary level needed for a programmatic EIS/EIR.
2. The level of detail in Section 4.0 of this study is not sufficient for a technical background study. It could be used as the EIS/EIR section with additional data regarding overall patterns of congestion, etc., on the roadways. More information is needed regarding levels of congestion on existing roadways, graphics illustrating transportation systems, agencies regulating transportation, etc.
3. A discussion of regulatory agencies with jurisdiction over transportation systems should be added.
4. It is not clear why the transportation systems discussion is limited to freeways and major highways, railways and commercial shipping routes.
5. Highly congested highways and freeways should be identified.
6. Transportation projects that will be constructed in the next few years (CIP projects) should be identified and discussed.

Environmental Consequences

1. Because this is a joint EIS/EIR the discussion of impacts and identification of their significance should be more precise than for a NEPA document. The section as currently written describes impacts over a range. Significance criteria should be clarified.
2. Conclusions are not well-substantiated. For example, the report states that no changes would occur to highways or railways or shipping routes, but does not say why these changes would not occur.
3. Mitigation measures are separate from the descriptions of impacts, making it difficult to tell which mitigation applies to which impact.
4. The summary of impacts does not include the No Action Alternative.
5. The discussion of the No Action Alternative provides setting information that should be included in the Affected Environment report instead.
6. For all regions, traffic is generally assumed to remain the same as under the No Action Alternative and therefore no impacts are identified from the project alternatives. If existing congested conditions would continue this should be noted, but existing conditions should not be restated. Much of this

information could be added to the Affected Environment report. Impacts of the No Action Alternative should focus on what would happen without the project. Identify adverse consequences from not implementing the proposed action.

7. The rest of the impacts discussion which is organized by region, it restates the summary information and then describes direct and construction related impacts (5.2.4) and indirect and operational impacts (5.2.5). In general, the impacts discussion provides conclusions with little or no substantiating information. Lacks descriptions of how or why impacts would occur and what would make them significant or not significant.
8. The description of methods is limited to data gathering methods and methods of evaluating whether the Program Actions would affect existing systems. Should be expanded to indicate which features of the Program Actions were determined to have impacts on transportation systems. Sources of information should also be identified.
9. As written, changes to traffic or attraction to or diversion from existing routes are all considered to be significant impacts. This is pretty broad and not really sufficient for an EIS/EIR. The report should be more specific about what would really constitute a significant impact (e.g. roadway modification, new construction that would interfere with traffic, new commercial shipping routes, railway modifications, etc.) Significance criteria should relate to the specific types of transportation systems discussed in the section.
10. The No Action Alternative provides discussion of existing conditions, but does not really compare No Action to existing conditions. It does not provide a summary of significant impacts or identify the absence or presence of significant unavoidable impacts.
11. Comparison of the No Action Alternative and Existing Conditions is not discussed.
12. Features that are common to all alternatives should be identified, along with the impacts that would result from their implementation, before discussing each alternative. The discussion of alternatives should focus on the features that differentiate each alternative.
13. Graphics/tables should be included to illustrate impacts. For example, provide a figure that indicates general areas where project impacts could occur, such as reservoir projects.
14. Expand the description of impacts to provide substantiation for conclusions of significance or nonsignificance.
15. Expand description of assessment methods and significance.
16. Combine impacts that are the same rather than repeating the same sentence e.g., impacts for ecosystem restoration, water quality, water use efficiency, and levee system integrity programs seem to be the same.
17. Indirect and operational impacts at this programmatic level seem to be somewhat speculative and are not called for in the Draft EIS/EIR Outline. Unless these impacts would be different from direct impacts, they should not be discussed.

18. A matrix of ranked impacts should be prepared to help the reader understand the similarities and differences among the alternatives.

21. UTILITIES AND PUBLIC SERVICES

Affected Environment

1. No summary was included in this report.
2. There is too much reliance on graphics to present the existing conditions. A brief written description should present an overview of each utility system. The technical discussion is not adequately detailed.

Environmental Consequences

1. No Summary was included in this report
2. The second paragraph of the introduction prematurely discusses impacts.
3. The Introduction should briefly describe the alternatives evaluated and reintroduce the utility systems.
4. The impact statements are not correlated to the significance criteria presented in the previous section. This makes it difficult to differentiate between significant and nonsignificant impacts.
5. Significant impacts as described are not associated with specific utility systems and are not followed by mitigation measures.
6. The beginning of the section should focus on the impacts associated with components common to all alternatives. Then, under Alternatives 1, 2, and 3, an introductory section could describe impacts for the additional components included within those alternatives. A matrix could then be presented that lists the components that are included in each of the sub-alternatives. This would eliminate repetitive text and allow the reader to better evaluate the impacts for each subalternative.
7. The Summary of Potential Significant Impacts table is not complete. However, this table did provide a good methodology for coding the impacted utility system and region. This table should be expanded to incorporate less than significant impacts. A ranking system for impacts should be employed.

22. VEGETATION AND WILDLIFE

Affected Environment

1. The text in sections 3.1 and 3.2 should be condensed and clarified. All of the necessary information appears to be there but it's repetitive and difficult to follow.
2. Sources of information are not uniformly referenced in 3.2.1-3.2.7.
3. The impact/benefit analyses (i.e., 5-1 through 5-5) are clearly written and thorough, but the paragraphs that describe both benefits and impacts to major resource issue areas (e.g., Impacts and Benefits to Habitat Quality and Pattern) should more clearly describe whether the impact or benefit carries more weight. The authors have tried to do this, by quantifying gains and losses in some of the paragraphs- but the numbers have not yet been inserted. For

consistency and clarity, the weightier of the two should be mentioned in a concluding sentence as is done for the other paragraphs in the section.

4. The use of example special status species (i.e., Swainson's Hawk and giant garter snake) and corresponding sample mitigation adds to the readability of the text. The connection of the sample mitigation to the species should be clarified further. Similar examples/mitigations would benefit the natural communities and critical habitat resource sections.
5. Clarify how Section 5.1.2's Ecosystem Restoration Program Plan relates to the comparison of Alternative 1 to the No action Alternative. The text currently seems out of place since it doesn't follow the format or logic of the previous section.
6. Clarify that significant impacts are adverse since the current terminology is beneficial vs. significant (these two aren't really opposites and may confuse the uninformed reader).
7. Quantify or approximate by percentage the areal extent of each plant community that occurs in the study area. State the number of species associated with each (unless it's cumbersome). State the number of special status species, sensitive, and critical habitats in the study area.
8. Create a summary table of environmental impacts, benefits, and mitigation strategies broken down by region. One short paragraph should be written for each alternative summarizing the beneficial and adverse impacts relative to the other alternatives. For brevity, these discussions should focus on the unavoidable or unmitigable impacts.

23. VISUAL RESOURCES

Affected Environment

1. The report does not include a summary.
2. This section needs to define terms (e.g., the region's five study areas, Variety Classes A and B), and summarize the important visual resources in each area, as defined by the Variety Classes.
3. The Summary (Section 1.0) should be inserted after the Introduction (Section 2.0), similar to how the Visual Impacts report is organized.
4. A graphic would be helpful showing the geographic limits of the five study areas (this is probably included in the project description) as well as the relationship of these five study areas to the Forest Service "provinces" used in the visual analysis (see Section 3.2.1).
5. *Section 2.3, Structure of Report.* The statement "Section 2.3 is a description of information sources consulted" is incorrect; should be Section 2.2.
6. *Section 4.1, Delta Region,* needs to include a header and discussion of "Current Conditions."
7. *Section 4.2, Bay Region including Suisun Marsh, Bay, and Carquinez Strait,* needs to identify the Variety Class of the region's visual resources (similar to Sections 4.1, 4.3, 4.4, and 4.5).
8. *Section 4.5, CVP and SWP Service Areas,* should include a header and discussion of "Historic Conditions," if applicable.

9. The level of information presented in the Visual Affected Environment Draft Technical Report appears generally adequate to use in support of a Programmatic EIR/EIS. However, photographs showing representative views of the five study regions should be included in the visual resources appendix to provide the reader with some context for understanding the rural nature of the study area environment.

Environmental Consequences

1. This section needs work before it can be used as part of the EIR/EIS text. In particular, Sections 2.1 and 2.2, *Summary of Potential Significant Impacts and Mitigation Strategies*, provides no correlation between the potential impacts and recommended mitigation measures. The summaries of No Action Effects and Regional Effects (Sections 5.1.1 and 5.2.1) are not sufficient to stand alone in an EIR/EIS analysis. Although the discussion of effects by region (Sections 5.1.2, 5.2.2, 5.3, 5.4, and 5.5) provides a general overview of potential impacts to visual resources by region, it is presented in a narrative form that does not follow the typical structure of an EIR/EIS impact discussion (itemized impacts, followed by mitigations).
2. *Section 1.0, Introduction*. Needs editing to eliminate reference to report structure.
3. *Section 2.0, Summary of Overall Effects by Alternative*. This section does not address effects by alternative, it simply discusses overall effects.
4. *Section 2.1 and 2.2, Summary of Potential Significant Impacts and Summary of Mitigation Strategies*. In general, this is a good overview of potential visual impacts and mitigation strategies. However:
5. There should be an association/correlation between the potential impact and application mitigation(s). For example, the impact "Establishment of borrow pits for obtaining riprap" is going to be mitigated by "Locating visually obtrusive features such as borrow pits and disposal of dredge materials outside of visually sensitive areas." But are there other measures applicable for that particular impact? Do all listed on-site and off-site measures apply to this impact? Even in a program-level EIR/EIS there should be a correlation between the impact and measure(s) required to mitigate that impact.
6. Taken alone, Sections 2.1 and 2.2 do not describe where these potential impacts would occur or under what alternative(s). This type of information is presented in Table 2 for the Delta Region, but not for the other portions of the study area.
7. *Section 2.3, Summary of Potential Significant Unavoidable Impacts*. This section does a good job at describing what the unavoidable impacts would be, and identifies that Alternatives 3H and 3I would have the greatest potential for unavoidable significant impacts. However, this section needs to specifically identify all alternatives that could result in unavoidable impacts. Furthermore, the header under Section 2.3 is redundant and should be deleted.
8. *Section 5.0, Environmental Impacts/Consequences*. In general, (assuming that the reader has been previously introduced to the project and that the alternatives have already been defined), this entire 3 ½ page discussion

- (including Sections 5.1.1, Summary of No Action Effects, and Section 5.2.1, Summary of Regional Effects) provides an adequate level of information for a programmatic EIR/EIS, although not in the typical EIR/EIS format.
9. Based on the Draft Outline for the EIR/EIS (1/29/97), more information will be required than just Impact Summary Sections 5.1.1 and 5.2.1. All of Section 5.0 should be incorporated in the EIR/EIS with some reformatting.
 10. *Section 5.1, No Action Alternative.* If used alone, *Section 5.1.1, Summary of No Action Effects*, needs a brief sentence or two substantiating why the No Action Alternative would not result in any significant impacts to visual resources (e.g., ...because views of important visual resources would not be affected, etc.). It is recommended that *Section 5.1.2, No Action Effects by Region* be used. This section provides a good brief summary of potential effects to visual resources by study area region.
 11. *Section 5.2, Action Alternatives.* This summary and discussion needs to be expanded to specify which alternative(s) would have a potentially significant impact(s) on various portions of the study area. Table 1 provides a good tabular summary, but a parallel discussion is needed in the text. For example:
 12. "There would be no significant visual impacts as a result of this alternative in the Region because..."
 13. "This alternative would have a potentially significant impact on the Delta, Sacramento, and San Joaquin River Valleys as a result of (DESCRIBE ACTION). However, this impact can be mitigated through a combination of measures, including (LIST):"
 14. This alternative would only have a potentially significant visual impact to the Delta Region, as a result of (DESCRIBE ACTION).
 15. *Section 5.2, Action Alternatives.* There is something wrong with the headers in this section. For example, why is the discussion of impacts of alternatives in the delta a third-order header whereas the impacts of alternatives in the other four regions are second-order headers? These headers should follow the same organizational structure/format as Section 5.1, No Action Alternative
 16. *Table 1, Summary of Potentially Significant Impacts by Alternative, by Region.* This is a good table for providing an overview of visual impacts by alternative, but it needs to be formatted for visual interest, maybe by using symbols instead of the words yes/no.
 17. *Table 2, Visual Impacts for Existing Conditions and Proposed Actions, Delta Region.* There should be a similar table for the other impacted study areas, namely, the Sacramento River Valley and San Joaquin River Valley.

24. WATER QUALITY

Affected Environment

No comments.

Environmental Consequences

1. The Environmental Impacts/Consequences report was not complete. The assessment focuses more on Common Programs rather than Alternative Configurations.
2. The report did not include an Executive Summary, but contains sufficient level of detail and supporting documentation to prepare an adequate Executive Summary.
3. Need to prepare a summary of Potential Significant Impacts, Unavoidable Impacts, and Mitigation Strategy.

25. WATER SUPPLY AND WATER MANAGEMENT

Affected Environment

1. Need to separate the Affected Environment report from the Environmental Impacts/Consequence report. These two reports are currently combined into one report.

Environmental Consequences

1. The report contains sufficient detail and supporting documentation to prepare an Executive Summary.
2. Potential Significant Impacts needs to summarize any identified impacts in analysis. Currently this section is too generic.
3. Significance Criteria need to be identified and applied to the analysis.
4. The Mitigation Strategy needs to address any identified impacts.
5. Need to prepare an Unavoidable Impacts section.
6. Need to compare alternatives in the Executive Summary and provide a measure of the magnitude of any identified impacts.